

## ABSTRACT

A method and system for examining biological tissue includes the steps of radiating a tissue region with a plurality of microwave radiation pulses. The microwave pulses are swept across a range of microwave frequencies. In response to the swept frequency microwave pulses, the tissue region emits a plurality of thermoacoustic signals. At least one image of the tissue region is formed from the plurality of thermoacoustic signals. The signals can be ultrawideband signals.